

Having thus defined the invention, the following is claimed:

1. A wire feeder including a motor driving a set of feed rolls to force a welding wire from a spool through a welding torch to a welding operation, said wire feeder having an input lead to be connected to the output terminal of a remotely located power source having an on condition and an off condition where a welding current is directed to said output terminal only when said source is in said on condition, a weld starting trigger with a weld start position located adjacent said torch to close a switch when said trigger is shifted to the weld position, a circuit to sense when said switch is closed, and a transmitter on said wire feeder to transmit a starting signal to said power source when said trigger switch is closed whereby said power source is shifted to its on condition when said trigger is in said weld position.

2. A wire feeder as defined in claim 1 wherein said transmitter is an RF signal generator.

3. A wire feeder as defined in claim 1 wherein said transmitter creates a signal transmitted to said power source through said input lead to said output terminal of said power source.

4. A wire feeder as defined in claim 3 wherein said wire feeder has a voltage select device for manual adjustment to a condition corresponding to a desired arc voltage.

5. A wire feeder as defined in claim 4 including a circuit to convert said condition to a voltage level signal and a transmitter on said wire feeder to transmit said voltage level signal to said power source whereby said power source is set to said desired voltage.

6. A wire feeder as defined in claim 2 wherein said wire feeder has a voltage select device for manual adjustment to a condition corresponding to a desired arc voltage.

7. A wire feeder as defined in claim 6 including a circuit to convert said condition to a voltage level signal and a transmitter on said wire feeder to transmit said voltage level signal to said power source whereby said power source is set to said desired voltage.

8. A wire feeder as defined in claim 1 wherein said wire feeder has a voltage select device for manual adjustment to a condition corresponding to a desired arc voltage.

9. A wire feeder as defined in claim 8 including a circuit to convert said condition to a voltage level signal and a transmitter on said wire feeder to transmit said voltage level signal to said power source whereby said power source is set to said desired voltage.

10. A wire feeder as defined in claim 8 including a speed control device for controlling arc current.

11. A wire feeder as defined in claim 3 including a speed control device for controlling arc current.

12. A wire feeder as defined in claim 2 including a speed control device for controlling arc current.

13. A wire feeder as defined in claim 1 including a speed control device for controlling arc current.

14. A method for turning on a power source of an electric arc welder including a remotely located wire feeder connected to said power source by a power cable, said method comprising:

(a) starting the welding cycle of a welding process for said welder;

(b) sensing said starting;

5 (c) transmitting a signal from said wire feeder to said power source when said starting is sensed; and,

(d) starting said power source upon receipt of said signal to direct power to said wire feeder by said cable.

15. A method as defined in claim 14 wherein said transmitted signal is RF.

16. A method as defined in claim 14 wherein said transmitted signal is by way of said cable.